

CLAIMS

What is claimed is:

1. A process for producing a magnetic recording medium comprising a non-magnetic flexible support, a non-magnetic layer comprising a non-magnetic powder and a binder, and a magnetic layer comprising a ferromagnetic powder and a binder, the non-magnetic layer being provided on top of the support, the magnetic layer being provided on top of the non-magnetic layer, and the non-magnetic powder comprising two or more types of non-magnetic powder including carbon black and a non-magnetic powder other than carbon black, the process comprising:

a step of separately dispersing a non-magnetic liquid A and a non-magnetic liquid B, the non-magnetic liquid A comprising a binder and a non-magnetic powder other than carbon black and the non-magnetic liquid B comprising carbon black and a binder; and

a step of stirring and mixing the non-magnetic liquid A and the non-magnetic liquid B to prepare a non-magnetic coating solution.

2. The process according to Claim 1 wherein the stirring and mixing employs a thin-film spin system high speed mixer.

3. The process according to Claim 1 wherein the stirring and mixing is carried out at a peripheral speed of 25 m/sec or higher.

4. The process according to Claim 1 wherein the dispersing of the non-magnetic liquid B employs sand-mill dispersion and ultrasonic dispersion in combination.

5. The process according to Claim 1 wherein the dispersing of the non-magnetic liquid A employs a sand mill.

6. The process according to Claim 1 wherein the non-magnetic powder other than carbon black is selected from the group consisting of a metal

oxide, a metal carbonate, a metal sulfate, a metal nitride, a metal carbide, and a metal sulfide.

7. The process according to Claim 1 wherein the non-magnetic powder other than carbon black is selected from the group consisting of titanium dioxide, zinc oxide, α -iron oxide, and barium sulfate.

8. The process according to Claim 1 wherein the stirring and mixing is a batchwise treatment.

9. The process according to Claim 1 wherein the stirring and mixing is a continuous treatment.

10. The process according to Claim 1 wherein the stirring and mixing includes holding for a period of 0 to 30 sec after the peripheral speed reaches a constant speed.

11. The process according to Claim 1 wherein the carbon black is used in a range not exceeding 50 wt % relative to the non-magnetic powder other than carbon black.

12. The process according to Claim 1 wherein the carbon black is used in a range not exceeding 40 wt % of the total weight of the non-magnetic layer.

13. The process according to Claim 1 wherein the non-magnetic powder other than carbon black has an average particle size of 0.01 to 0.2 μm .

14. The process according to Claim 1 wherein the non-magnetic powder other than carbon black has an average major axis length of 0.01 to 0.2 μm .

15. The process according to Claim 1 wherein the carbon black has a specific surface area of 100 to 500 m^2/g .

16. The process according to Claim 1 wherein the carbon black has a DBP oil absorption of 20 to 400 mL/100 g.

17. The process according to Claim 1 wherein the carbon black has an average particle size of 5 to 80 nm.

18. The process according to Claim 1 wherein the binder used in the non-magnetic coating solution is used in the range of 5 to 50 wt % relative to the non-magnetic powder.

19. The process according to Claim 1 wherein the ferromagnetic powder is a ferromagnetic metal powder.

20. The process according to Claim 1 wherein the non-magnetic flexible support is polyethylene naphthalate or polyamide.